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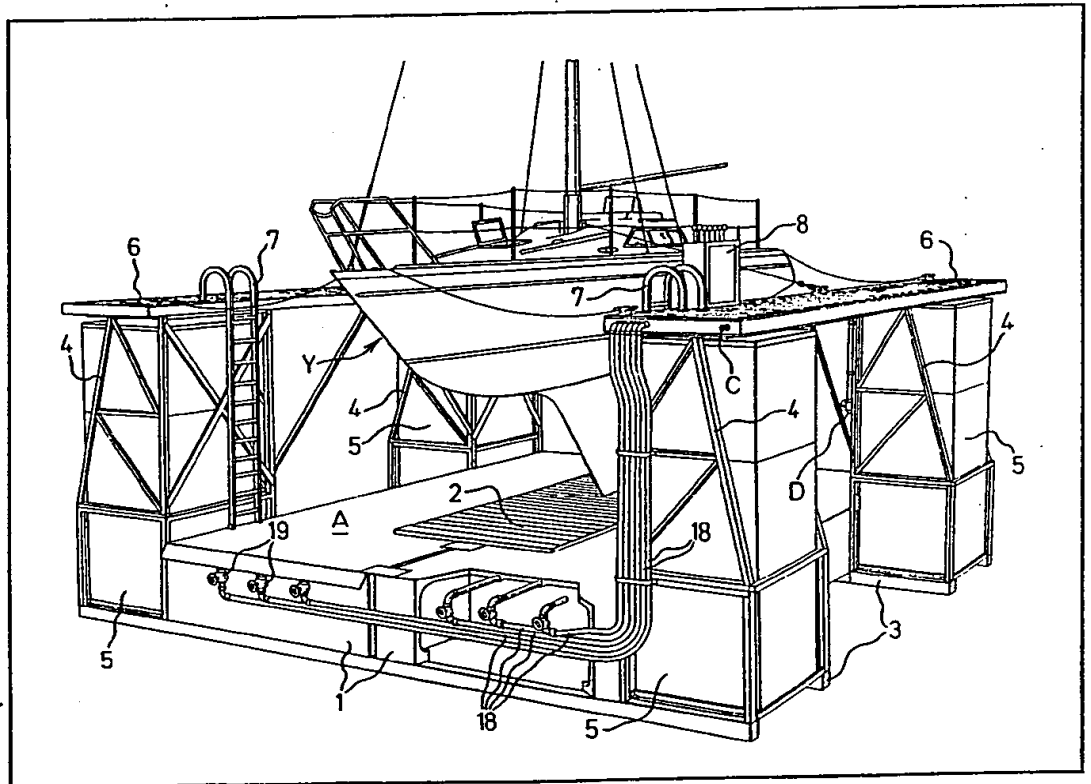
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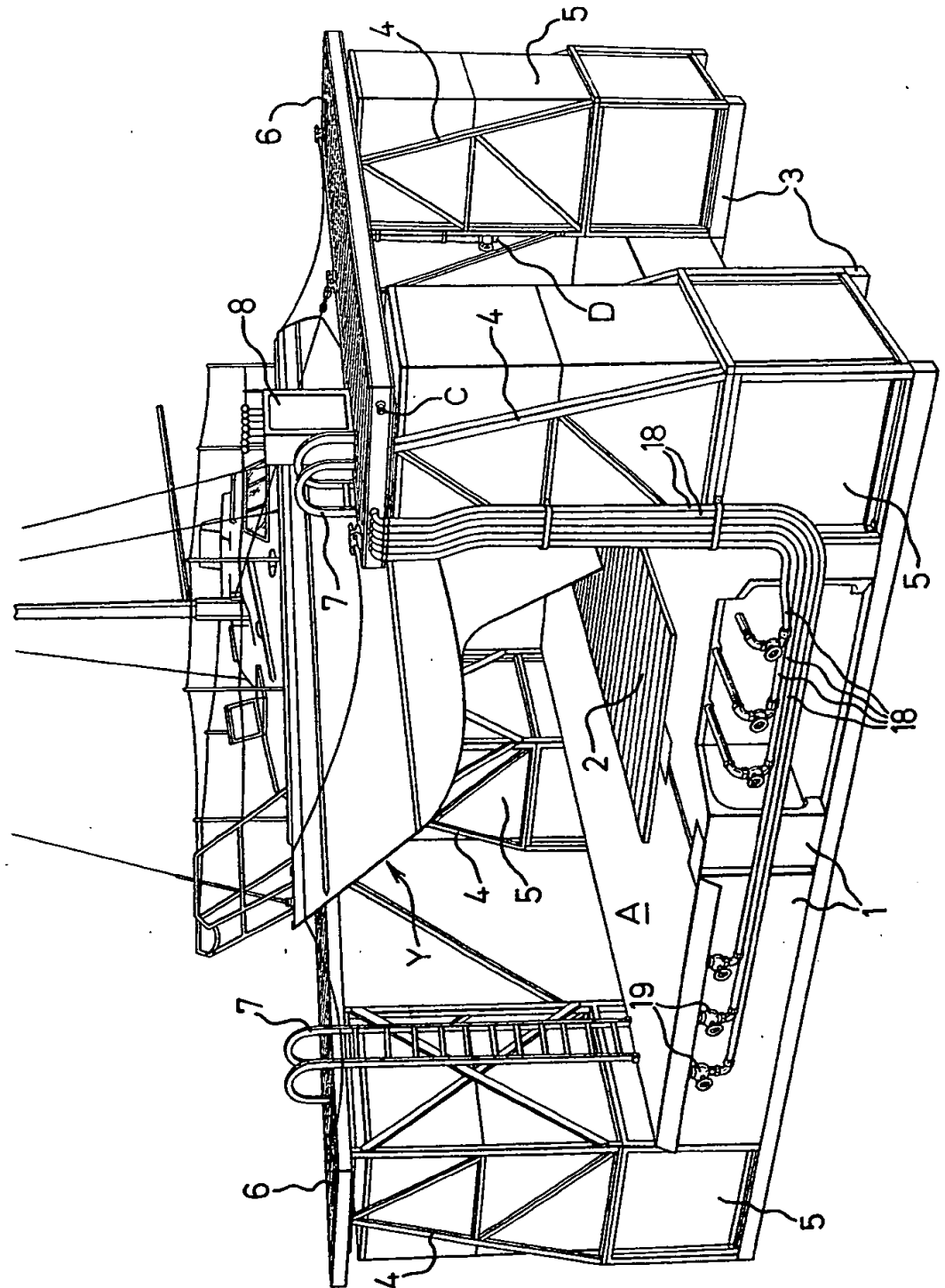
(54) A Floating Dock

(57) A floating dock intended to handle yachts and other relatively small craft comprises a submersible load-supporting base platform A, at

least one flotation chamber or tank associated with, or incorporated in, the platform, means for admitting air under pressure to each said chamber to displace water therefrom and means for permitting entry and discharge of water to and from each said chamber, whereby the flotation level of the load supporting platform can be controlled, and a plurality of stabilising floats or sponsons attached to the sides or corners of the platform.



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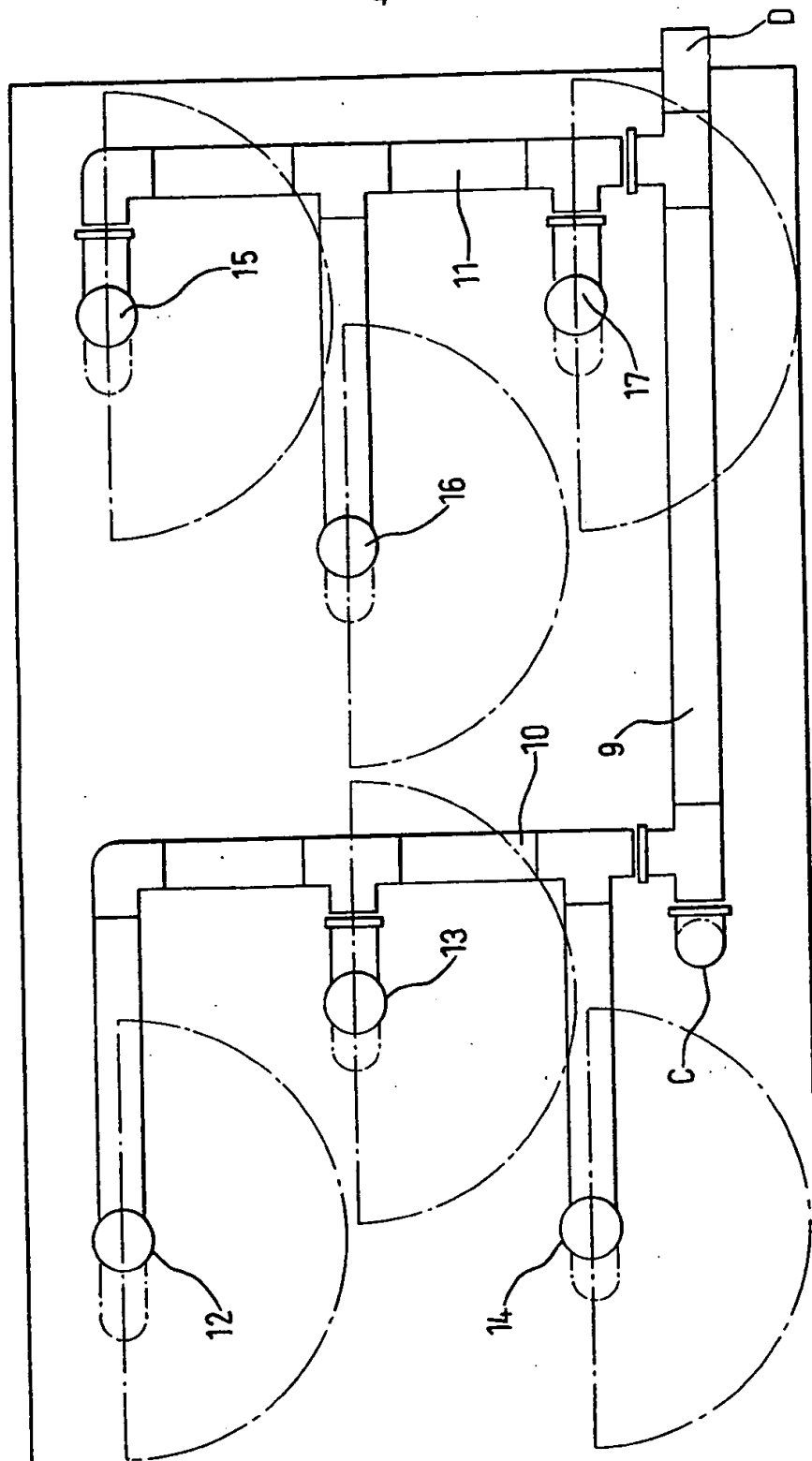


FIG. 2.

SPECIFICATION A Floating Dock

This invention relates to a floating dock which has been devised and is mainly intended for accommodating yachts and other small marine craft but which by suitable enlargement is in principle suitable for accommodating larger vessels.

According to the invention a floating dock comprises a submersible load-supporting platform, at least one flotation chamber or tank associated with, or incorporated in, the platform, means for admitting air under pressure to each said chamber to displace water therefrom and means for permitting entry and discharge of water to and from each said chamber, whereby the flotation level of the load supporting platform can be controlled, and a plurality of stabilising floats or sponsons attached to the sides or corners of the platform.

Preferably the platform, which may comprise two or more spaced or contiguous units, is made of fibre reinforced concrete. Preferably also each of the floats or sponsons is constructed in the manner disclosed in British Patent Specification 1,338,504, that is to say it comprises a core made of closed cellular material and surrounded by an outer shell made of a water-hardenable mass incorporating fibrillated polypropylene fibres.

A particular and at present form of floating dock in accordance with the invention is hereinafter described by reference to the accompanying drawings in which:—

Fig. 1 is a general perspective view of the dock showing its mode of use; and

Fig. 2 is a pipe and valve connection diagram.

Referring now to Fig. 1 of the drawings, the floating dock therein shown supporting a deep keel yacht Y comprises a fibre reinforced concrete base platform A comprised of two longitudinally adjoining units 1 each for instance measuring 10m x 2.25m x 1.00m connected together by four coupling bolts (not shown) to provide a structure 10 metres long and 4.50 metres wide. Above the centre line of the base platform A there is a timber keel bearing plate 2. The units 1 each incorporate 5 blow chambers or tanks, of which three communicate with one another, made of fibre concrete lined with glass fibre which can be individually filled with compressed air or flooded as required. Beneath, or alternatively above, the base platform there is a galvanised steel frame 3 with superstructures 4 which serve *inter alia* to locate four rectangular floats or sponsons 5 which are disposed outboard and adjacent the corners of the base platform 1. Each sponson 5 functions to stabilise the base platform and comprises an expanded polystyrene core encased in fibre reinforced concrete. Each sponson 5 may comprise two or more units suitably connected together.

Bridging the two superstructures on the longer sides of the platform are a pair of catwalks 6 each

of which may have a timber fender and a handrail (not shown). A ladder 7 is situated beside each catwalk and reaches down to the base platform A. Also provided on the catwalks are cleats eyebolts and other attachments for use in stabilising a yacht or other vessel located in the dock.

Mounted at the inwardly facing side of one of the catwalks 6 is a console 8 from which an operator can control docking and undocking operations.

Referring now more particularly to Fig. 2 the console manifolding therein shown comprises a compressed air supply pipe 9 of which one end 'C' is connectable to an air compressor situated either on land or on an adjacent pontoon whilst the other end D is connectable to an air-driven tool if required. From the pipe 9 there extend two parallel branch pipes 10 and 11. The branch pipe 10 is connected to the inlet of each of three 3-way valves 12, 13 and 14 whilst the branch pipe 11 is connected to the inlet of each of three 3-way valves 15, 16 and 17. Each of these valves has a downwardly directed delivery outlet which is connected by a non-ferrous airline 18 (Fig. 1) to the top of a respective one of six of the platform tanks, each of which has a vent which is opened or closed by a manually operable valve (not shown). In each of the airlines 18 there is incorporated a tank shut-off valve 19.

In a docking operation, the base platform tanks are initially flooded by opening of their valve controlled vents, so that the dock as a whole sinks to a partially submerged but still floating position with the top of the platform a maximum of 1.8 m below the water surface so that a yacht can be introduced above the base platform. The valves 12 to 17 inclusive are now operated so as to admit compressed air to all the tanks and cause the dock to rise a distance of about 2 metres with the yacht until the top of the base platform is slightly above the water surface. When yacht hull inspection, maintenance or repair has been completed, the valves 12 to 17 inclusive are moved to positions causing exhaust of air from the tanks so that these become flooded and the original submerged position of the platform is resumed.

A floating dock as aforesaid can be made as a kit of readily assembled and dismantled parts so that it can be used at different locations. It operates entirely by compressed air and the only mechanical parts are those of the compressor itself. Also, due to the extensive use of concrete material in its construction maintenance costs are low.

There has thus been provided an easily operated, self contained, floating dock for scrubbing, anti-fouling, under-water repairs, inspections, and fitting seacocks, transducers and logs.

Independent of on-shore facilities the dock, which may be built in various sizes, may be moored in any sheltered water of adequate depth and operated by one person without waiting for the tide to serve. There is no need to undergo the

tedious and time consuming processes of tending
craft on grids and scrubbing hards.

The absence of slings and poppets leaves a
clear and unobstructed bottom for a complete
5 scrub and anti-foul in one operation.

Claims

1. A floating dock comprising a submersible
load-supporting base platform, at least one
flotation chamber or tank associated with, or
10 incorporated in, the platform, means for admitting
air under pressure to each said chamber to
displace water therefrom and means for
permitting entry and discharge of water to and
from each said chamber, whereby the flotation
15 level of the load supporting platform can be
controlled, and a plurality of stabilising floats or
sponsons attached to the sides or corners of the
platform.

2. A floating dock as claimed in claim 1 in

20 which the platform is made of concrete and
incorporates a plurality of flotation chambers or
tanks.

3. A floating dock as claimed in claim 1 or
claim 2 in which each of the floats or sponsons
25 comprises a core made of closed cellular material
and surrounded by an outer shell made of a
water-hardenable mass incorporating fibrillated
polypropylene fibres.

4. A floating dock as claimed in any of claims
30 1, 2 or 3 including a framework superstructure
and an associated catwalk along each of two
opposite sides of the platform and an operating
console mounted on a said superstructure
adjacent its catwalk.

5. A floating dock constructed and adapted for
operation substantially as hereinbefore described
with reference to, and as shown in, the
35 accompanying drawing.